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ART UNIT	PAPER NUMBER
2164	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/811,878	SATO ET AL.
	Examiner	Art Unit	
	Charles D. Adams	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2006*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Remarks

1.   In response to communications filed on 12 September 2006, claims 1-10 are

amended. Claims 1-10 are pending in the application.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "said configurations" in line 5. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action: ·

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set ·
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chambliss et al. (US Pre-Grant Publication 2004/0003087) in view of Sekijima et al. (US

Patent 6,957,429).

As to claim 1, Chambliss et al. teaches:

An information processing apparatus which is used to operate a plurality of

applications to request data input/output to/from a storage (see paragraph [0044]); and

A management host which manages said storage (see paragraphs [0044]-[0046]

and [0083]. The gateways serve as management hosts),

Wherein said storage and said information processing apparatus constitute an

access process section for processing an access request from an application (see

paragraph [0044]-[0047]),

Wherein said information processing apparatus comprises an access monitoring

section which monitors an access request from said application and obtains information

about said access request for each of said applications (see paragraphs [0046] and

[0082]-[0083]);

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see

paragraph [0083] and [0078]. Service classes categorize requests (applications));

An estimated load calculation section which calculates estimated amount of data

accessed from said application to said storage, in case of addition of said new

application based on information obtained by said access monitoring section (see

paragraphs [0063]-[0071]. Configuration rates can be set that limit "amounts of data" or

rates of data transfer. Also see paragraph [0075] and [0082]-[0083]. "The balance

vector value of a service class denotes a level of credit defining how much usage of the

associated resource can be performed immediately without causing the usage limit to

be exceeded. A request is admitted into servicing by the storage system only when the

balance vector values exceed the predicated resource usage of that request, and for

each request that is admitted into serving, the balance vector values are reduced by the

request's resource usage", paragraph [0082]);

Chambliss et al. does not explicitly teach a load data output section which

outputs the estimated amount of data calculated by said estimated load calculation

section.

Sekijima et al. teaches a load data output section which outputs the estimated

amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Sekijima et al., since Sekijima et al. teaches that "the present invention presents users

with a list of applicable services dynamically updated and enables the users to specify

selective combinations of the services. Thereby, the present invention provides service

users with the easy recognition of applicable services, flexible selection of services to

meet users' purposes, and smooth application of selected services to relevant data"

(see 2:47-53).

As to claim 2, Chambliss et al. as modified teaches:

wherein said management host comprises a current load calculation section

which calculates current amount of data accessed from said application to said storage,

based on information obtained by said access monitoring section (see paragraphs

[0082]-[0083]); and

wherein said estimated load calculation section calculates estimated amount of

data in case of addition of said new application based on current amount of data

calculates by said current load calculation section and based on information obtained by

said access monitoring section (see paragraph [0083]).

As to claim 3, Chambliss et al. as modified teaches:

Wherein said storage comprises at least one port and at least one array group

including a plurality of disk units (see paragraph [0044]. There are connections between

the different elements of the systems. Connections between components are 'ports');

wherein said information processing apparatus accesses, via said at least one

port, a virtual area provided by said at least one array group (the specification of the

present application describes a 'virtual area' in paragraph [0062]: "The array group

provides one virtual area comprising a plurality of redundant physical disk units".

Chambliss et al., paragraph [0048], states that "the storage system is a collection of

RAID controllers". As RAID stands for "Redundant Array of Inexpensive Disks", and as

a virtual area is comprised of "a plurality of redundant physical disk units", then

Chambliss et al. teaches this limitation).

Wherein said access process section includes said at least one port and said at

least one array group (see paragraphs [0044]-[0046]. The access process section can

include the storage drives (array groups), and the gateways);

Wherein said estimated load calculation section calculates each of estimated

amount of data in said at least one array group when a new application is added (see

paragraphs [0075] and [0082]-[0083]. It calculates the estimated cost for at least one

storage group, which, according to paragraph [0048], is in a RAID configuration).

As to claim 4, <u>Chambliss et al</u>. as modified teaches:

Wherein said configurations for said at least one port and said at least one array

group comprise a configuration information storage section which stores information

about available combinations capable of processing said access request (see

paragraphs [0063]-[0071], [0073]-[0075], and [0107]-[0109]); and

Wherein said estimated load calculation section calculates estimated amount of

data with respect to said available combinations of said configurations for said at least

one port and said at least one array group (see paragraph [0082]-[0083]).

As to claim 5, <u>Chambliss et al</u>; teaches:

A storage which stores a database (see paragraph [0044] and [0058]-[0060].

There is information is stored by address, therefore, the storage is a database);

A plurality of information processing apparatuses which are used to operate an

application requesting data input/output to/from said storage (see paragraph [0044] and

Figure 2. The different sets of gateways, switches, and storage comprise "information

processing apparatuses");

Wherein each of said information processing apparatuses comprises:

A database management system which processes an access request from said

application to said database (see paragraph [0044]-[0046] and [0083]);

An access monitoring section which monitors an access request sent from said

application to said database management system and obtains information about said

access request (see paragraph [0044]-[0046] and [0083]);

An access information output section which collects information about said

access request and adds up said information correspondingly to said application (see

paragraph [0044]-[0046] and [0083]);

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see

paragraph [0083]);

A current load calculation section which calculates current load data based on

information obtained by said access monitoring section (see paragraphs [0063]-[0071],

[0075] and [0082]-[0083]);

An estimated load calculation section which calculates estimated amount of data

accessed from said application to said storage, calculated by said current load

calculation section and based on information obtained by said access monitoring

section (see paragraphs [0063]-[0071], [0075], and [0082]-[0083]);

A configuration setup section which sets up a change in configuration of said

storage based on the estimated amount of data calculated by said estimated load

calculation section (see paragraphs [0082]-[0083]. The amount of available storage will

be changed upon the addition of a new program based on the estimated cost of that

program).

Chambliss et al. does not teach a load data output section which outputs

estimated amount of data calculated by said estimated load calculation section.

Sekijima et al. teaches a load data output section which outputs estimated

amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Sekijima et al., since Sekijima et al. teaches that "the present invention presents users

with a list of applicable services dynamically updated and enables the users to specify

selective combinations of the services. Thereby, the present invention provides service

users with the easy recognition of applicable services, flexible selection of services to

meet users' purposes, and smooth application of selected services to relevant data"

(see 2:47-53).

As to claim 6, Chambliss et al. teaches:

A storage which stores a file (see paragraph [0044] and [0058]-[0060]);

A plurality of information processing apparatuses which are used to operate an

application requesting input/output of data stored in a file to/from said storage (see

paragraph [0044] and Figure 2); and

A management host which manages said storage (see paragraph [0044]-[0046]

and [0083]),

Wherein each of said information processing apparatuses comprises:

A file system which processes an access request from said application to said file (see paragraph [0044]-[0046] and [0082]-[0083]);

An access monitoring section which monitors an access request sent from said file system to said storage and obtains information about said access request (see paragraph [0044]-[0046] and [0082]-[0083]); and

An access information output section which collects information about said access request and adds up said information correspondingly to said application (see paragraph [0044]-[0046] and [0082]-[0083]),

Wherein said management host comprises:

An acceptance section which accepts specification of a new application (see paragraphs [0082]-[0083]);

A current load calculation section which calculates current amount of data based on information obtained by said access monitoring section (see paragraphs [0063]-[0071], [0075] and [0082]-[0083]);

An estimated load calculation section which calculates estimated amount of data accessed from said application to said storage, in case of addition of said new application based on current amount of data calculated by said access monitoring section (see paragraphs [0063]-[0071], [0075], and [0082]-[0083]);

A configuration setup section which sets up a change in configuration of said storage based on estimated amount of data calculated by said estimated load calculation section (see paragraphs [0082]-[0083]. The amount of available storage will

be changed upon the addition of a new program based on the estimated cost of that program).

Chambliss et al. does not teach a load data output section which outputs estimated amount of data calculated by said estimated load calculation section;

Sekijima et al. teaches a load data output section which outputs estimated amount of data calculated by said estimated load calculation section (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Chambliss et al. by the teaching of Sekijima et al., since Sekijima et al. teaches that "the present invention presents users with a list of applicable services dynamically updated and enables the users to specify selective combinations of the services. Thereby, the present invention provides service users with the easy recognition of applicable services, flexible selection of services to meet users' purposes, and smooth application of selected services to relevant data" (see 2:47-53).

As to claim 7, Chambliss et al. teaches a control method of an information processing system comprising an information processing apparatus which is used to operate a plurality of applications to request data input/output to/from a storage (see paragraph [0044] and Figure 2);

And a management host which manages said storage (see paragraph [0044]-[0046] and [0083]), said method comprising the steps of:

Obtaining information about said access request for each of said applications

(see paragraphs [0082]-[0083]);

Calculating current amount of data accessed from each of said applications to

said storage, in case of addition of said new application based on information about said

obtained access request (see paragraphs [0082]-[0083]);

Accepting specification of a new application (see paragraphs [0082]-[0083]);

Calculating estimated amount of data accessed from each of said applications to

said storage, in case of addition of said new application based on information about said

obtained access request (see paragraphs [0082]-[0083]);

Calculating estimated amount of data in case of addition of said new application

based on said calculated current data and information about said obtained access

request (see paragraphs [0082]-[0083]); and

Chambliss et al. does not teach outputting said calculated estimated amount of

data.

Sekijima et al. teaches outputting said calculated estimated amount of data (see

3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Sekijima et al., since Sekijima et al. teaches that "the present invention presents users

with a list of applicable services dynamically updated and enables the users to specify

selective combinations of the services. Thereby, the present invention provides service

users with the easy recognition of applicable services, flexible selection of services to

meet users' purposes, and smooth application of selected services to relevant data"

(see 2:47-53).

As to claim 8, Chambliss et al. teaches:

Wherein said storage comprises at least one port and at least one array group

including a plurality of disk units (see paragraph [0044]. There are connections between

the different elements of the systems. Connections between components are 'ports');

wherein said information processing apparatus accesses via said port, a virtual

area provided by said at least one array group wherein said information processing

apparatus accesses, via said at least one port, a virtual area provided by said at least

one array group (the specification of the present application describes a 'virtual area' in

paragraph [0062]: "The array group provides one virtual area comprising a plurality of

redundant physical disk units". Chambliss et al., paragraph [0048], states that "the

storage system is a collection of RAID controllers". As RAID stands for "Redundant

array of inexpensive disks", and as a virtual area is comprised of "a plurality of

redundant physical disk units", then Chambliss et al. teaches this limitation),

Wherein said estimated amount of data is calculated in case of addition of a new

application for each of said at least one port and said at least one array group to

process in series said access request and for available combinations of configurations

of said at least one port and said at least one array group (see paragraphs [0044]-

[0046]. The access process section can include the storage drives, and the gateways.

Also se paragraphs [0088] and [0089]. Requests can be added to a delay queue, and

processed 'in series' that way).

As to claim 9, <u>Chambliss et al</u>. teaches a program for calculating load data in an

information processing system comprising an information processing apparatus which is

used to operate a plurality of applications to request data input/output to/form a storage

(see paragraph [0044]-[0046] and [0083]);

And a management host which manages said storage, wherein said program is

tangibly embodied on a machine-readable storage device (see paragraph [0044]-[0046]

and [0083]), the program comprising:

Means for monitoring an access request from said application and obtaining

information about said access request for each of said applications (see paragraphs

[0082]-[0083]);

Means for calculating current amount of data accessed from said application to

said storage based on information about said obtained access request (see paragraphs

[0082]-[0083]);

Means for accepting specification of a new application (see paragraphs [0082]-

[0083]);

Means for calculating estimated amount of data accessed from said application

to said storage, in case of addition of said new application based on information about

said obtained access request (see paragraphs [0082]-[0083]);

Means for calculating estimated amount of data in case of addition of said new

application based on said calculated current amount of data and information about said

obtained access request; and

Chambliss et al. does not teach means for outputting said calculated estimated

amount of data.

Sekijima et al. teaches means for outputting said calculated estimated amount of

data (see 3:53-59).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have modified Chambliss et al. by the teaching of

Sekijima et al., since Sekijima et al. teaches that "the present invention presents users

with a list of applicable services dynamically updated and enables the users to specify

selective combinations of the services. Thereby, the present invention provides service

users with the easy recognition of applicable services, flexible selection of services to

meet users' purposes, and smooth application of selected services to relevant data"

(see 2:47-53).

As to claim 10, Chambliss et al. teaches:

Wherein said storage comprises at least one port and at least one array group

including a plurality of disk units (see paragraph [0044]. There are connections between

the different elements of the systems. Connections between components are 'ports');

wherein said information processing apparatus accesses, via said at least one

port, a virtual area provided by said at least one array group (the specification of the

present application describes a 'virtual area' in paragraph [0062]: "The array group
provides one virtual area comprising a plurality of redundant physical disk units".
Chambliss et al., paragraph [0048], states that "the storage system is a collection of
RAID controllers". As RAID stands for "Redundant array of inexpensive disks", and as a
virtual area is comprised of "a plurality of redundant physical disk units", then Chambliss
et al. teaches this limitation),

wherein said means for calculating estimated amount of data calculates the
estimated amount of data in case of addition of a new application for each of said a
least one port and said at least one array group to process in series said access request
for available combinations of configurations (see paragraphs [0044]-[0046]. The access
process section can include the storage drives, and the gateways. Also se paragraphs
[0088] and [0089]. Requests can be added to a delay queue, and processed 'in series'
that way).

Response to Arguments

5.   Applicant's arguments with respect to claims 1-10 have been considered but are
moot in view of the new ground(s) of rejection.

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time
policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Charles D. Adams whose telephone number is (571)
272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number
for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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